

### **REMARKS**

In the Office Action, the Examiner noted that claims 1-27 are pending in the application and that claims 1-27 are rejected. In view of the following discussion, the Applicant submits that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. The Applicant herein amends claims 1, 15, 18, 21 and 24 to incorporate the limitations of claims 14 and 23, respectively. Accordingly, claims 14 and 23 are canceled without prejudice. Thus, the Applicant believes that all of these claims are now in condition for allowance.

#### **I. REJECTION OF CLAIMS 1-27 UNDER 35 U.S.C. §103**

##### **A. Claims 1-3, 7, 12, 13, 18, 21 and 24**

The Examiner rejected claims 1-3, 7, 12, 13, 18, 21 and 24 as being unpatentable under 35 U.S.C. § 103 over Freeburg (U.S. Patent No. 4,850,032, issued July 18, 1989, hereinafter referred to as "Freeburg") in view of Grell, et al. (U.S. Patent No. 5,815,538, issued on September 29, 1998, hereinafter referred to as "Grell"). The Applicant respectfully traverses the rejection.

Freeburg teaches a data communication system that communicates messages by way of a radio frequency channel between a network control processor (NCP 102) and subscriber radios (190). (see Abstract).

Grell teaches a method and apparatus for determining location of a subscriber device in a wireless cellular communications system. The location is established by transmitting digital data signals to a cellular digital data receiver of the subscriber device from at least three different cellular cell site transmitters at known locations. (See Grell, Abstract).

The Examiner's attention is directed to the fact that Freeburg and Grell, alone or in any permissible combination, fails to teach or suggest transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Specifically, Applicant's independent claims 1, 18, 21, 24 and 27 respectively recite:

1. A method for determining a location of a mobile station, comprising:

receiving a plurality of simulcast signals having substantially identical information from a plurality of base stations;  
determining relative time of arrival information for the received plurality of simulcast signals;  
determining a position of the mobile station by said mobile station;  
and  
transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. (Emphasis added).

18. A method for receiving location information for a mobile station at a base station, comprising:  
transmitting simulcast signals having substantially identical information to the mobile station; and  
receiving, at said base station, mobile station location information from the mobile station determined from relative time of arrival information for the simulcast signals. (Emphasis added).

21. A mobile station, comprising:  
a receiver for receiving simulcast signals having substantially identical information from a plurality of base stations;  
a processor for determining time of arrival information for the received simulcast signals and identifying a location of the mobile station;  
and  
a transmitter for transmitting the mobile station location to one or more of the plurality of base stations. (Emphasis added).

24. A wireless network for providing location specific information to a mobile station, comprising:  
a mobile station for receiving the simulcast signals and determining a location of the mobile station; and  
a plurality of base stations for transmitting the simulcast signals having substantially identical information and receiving said location of the mobile station transmitted from the mobile station. (Emphasis added).

27. A wireless network, comprising:  
a plurality of base stations for transmitting simulcast signals having substantially identical information to mobile stations and receiving mobile station location information derived by the mobile stations from at least one of the mobile stations to broadcast location specific information to the mobile stations. (Emphasis added).

The Applicant's invention teaches a method for determining the location of a mobile station utilizing simulcasted signals that are transmitted from a plurality of base

stations. Simulcasting is the transmission of a particular signal from a plurality of base stations at the same moment in time. Specifically, the Applicant describes simulcasting as the “simultaneous transmission of substantially the same information content from multiple base stations” (See e.g., Applicant’s specification, page 5, paragraph 3). Namely, simulcasting creates an artificial multipath environment that is used by the Applicant’s system to create diversity. Applicant’s invention teaches a system that can simulcast simultaneous transmission of substantially identical information from a plurality of basestations BS1-N. With this arrangement, the link performance is improved by simulating multipath. Since the same signal from multiple base stations is received by a mobile station, the difference in path delay results in frequency selective fading with narrow spacing between multipath nulls interacting with the inherent frequency diversity of the OFDM system. (See e.g., Applicant’s specification, page 6, paragraph 5).

Furthermore, the mobile station is able to determine its location or position from the received simulcasted signals. Namely, the mobile station’s location or position is determined or derived by the mobile station itself by using the received simulcasted signals. (See e.g., Applicant’s specification, page 5, paragraphs 2 and 4; page 6, paragraph 2). This information may be subsequently transmitted from the mobile stations to the base stations and utilized for location specific advertising or multi-casting location specific information. (See *Id.* at p. 11, ll. 1-16).

The Applicant submits that the alleged combination (as taught by Freeburg) fails to render obvious the Applicant’s invention because the alleged combination fails to teach or suggest transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. The Examiner concedes this in the Office Action (See Office Action, p. 8, ll. § 9).

In addition, the Applicant submits that Freeburg and Grell cannot be meaningfully combined. The MPEP § 2141.02(VI) requires the Examiner to consider the prior art in its entirety. “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention”. MPEP § 2141.02(VI), W.L. Gore & Associates, Inc., v. Garlock, Inc., 721 F.2d 1540, 220 USPQ

303 (Fed Cir. 1983), cert. denied, 469 U.S. 851 (1984). It is impermissible to use the claims as a framework from which to choose among individual references to recreate the claimed invention. W. L. Gore Associates, Inc. v. Garlock, Inc., 220 U.S.P.Q. 303, 312 (1983). If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) MPEP 2143.01(V).

In the present case, Freeburg clearly teaches that the network control processor is tasked with determining the location of the subscriber radio. (See Freeburg, generally throughout). In stark contrast, Grell teaches that it is the subscriber device that calculates the location of the subscriber device. (See Grell, generally throughout). Therefore, when Freeburg and Grell are considered in their entirety, modifying Freeburg with the teachings of Grell would render Freeburg inoperable for its intended purpose. Therefore, the Applicant contends that independent claims 1, 18, 21, 24 and 27 are not rendered obvious by Freeburg and Grell.

Dependent claims 2-3, 7, 12, and 13 depend, either directly or indirectly, from claim 1 and recite additional features thereof. As such and for the exact same reasons set forth above, the Applicant submits that claims 2-3, 7, 12, and 13 are also not rendered obvious by the teachings of Freeburg and Grell. Therefore, the Applicant submits that claims 2-3, 7, 12, and 13 fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

B. Claims 4, 19, 22, and 25

The Examiner rejected claims 4, 19, 22 and 25 as being unpatentable under 35 U.S.C. § 103 over Freeburg and Grell and in further view of Siwiak (U.S. Patent No. 5,537,398, issued on July 16, 1996, hereinafter referred to as "Siwiak"). The Applicant respectfully traverses the rejection.

The teachings of Freeburg and Grell are discussed above. Siwiak teaches an apparatus for multi-rate simulcast communications. (See Siwiak, Abstract).

The Examiner's attention is directed to the fact that Freeburg, Grell and Siwiak, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg and Grell simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. In addition, as discussed above, Freeburg and Grell cannot be meaningfully combined.

Moreover, Siwiak does not bridge the substantial gap left by Freeburg and Grell because Siwiak also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell and Siwiak.

Moreover, dependent claims 4, 19, 22 and 25 depend from independent claims 1, 18, 21 and 24, respectively and recite additional limitations. As such, and for the exact same reason set forth above with regard to the independent claims being patentable over Freeburg, Grell and Siwiak, the Applicant submits that claims 4, 19, 22 and 25 are also patentable over Freeburg, Grell and Siwiak. As such, the Applicant respectfully requests the rejection be withdrawn.

C. Claims 5 and 6

The Examiner rejected claims 5 and 6 as being unpatentable under 35 U.S.C. § 103 over Freeburg, Grell and Siwiak and further in view of the Stilp et al. patent (United States patent publication No. 2005/0206566, published on September 22, 2005, hereinafter referred to as "Stilp"). The Applicant respectfully traverses the rejection.

The teachings of Freeburg, Grell and Siwiak are discussed above. Stilp teaches a multiple pass location processor. (See Stilp, Abstract).

The Examiner's attention is directed to the fact that Freeburg, Grell, Siwiak and Stilp, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg, Grell and Siwiak simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. In addition, as discussed above, Freeburg and Grell cannot be meaningfully combined.

Moreover, Stilp does not bridge the substantial gap left by Freeburg, Grell and Siwiak because Stilp also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell, Siwiak and Stilp.

Moreover, dependent claims 5 and 6 depend from independent claim 1, respectively and recite additional limitations. As such, and for the exact same reason set forth above with regard to the independent claims being patentable over Freeburg, Grell, Siwiak and Stilp, the Applicant submits that claims 5 and 6 are also patentable over Freeburg, Grell, Siwiak and Stilp. As such, the Applicant respectfully requests the rejection be withdrawn.

D. Claims 8, 10 and 11

The Examiner rejected claims 8, 10 and 11 as being unpatentable under 35 U.S.C. § 103 over Freeburg and Grell in view of Watters, et al. (U.S. Patent No.

5,982,324, issued November 9, 1999, hereinafter referred to as "Watters"). The Applicant respectfully traverses the rejection.

The teachings of Freeburg and Grell are discussed above. Watters teaches the combination of GPS with TOA/TDOA of cellular signals to locate a terminal. (See Watters, Abstract)

The Examiner's attention is directed to the fact that Freeburg, Grell and Watters, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg and Grell simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. In addition, as discussed above, Freeburg and Grell cannot be meaningfully combined.

Moreover, Watters does not bridge the substantial gap left by Freeburg and Grell because Watters also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell and Watters.

Moreover, dependent claims 8, 10 and 11 depend from independent claim 1 and recite additional limitations. As such, and for the exact same reason set forth above with regard to the independent claims being patentable over Freeburg, Grell and Watters, the Applicant submits that claims 8, 10 and 11 are also patentable over Freeburg, Grell and Watters. As such, the Applicant respectfully requests the rejection be withdrawn.

E. Claim 9

The Examiner rejected claim 9 as being unpatentable under 35 U.S.C. § 103 over Freeburg and Grell in view of Baum, et al. (U.S. Patent No. 5,867,478, issued February 2, 1999, hereinafter referred to as "Baum"). The Applicant respectfully traverses the rejection.

The teachings of Freeburg and Grell are discussed above. Baum teaches a synchronous coherent orthogonal frequency division multiplexing system. (See Baum, Abstract)

The Examiner's attention is directed to the fact that Freeburg, Grell and Baum, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg and Grell simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. In addition, as discussed above, Freeburg and Grell cannot be meaningfully combined.

Moreover, Baum does not bridge the substantial gap left by Freeburg and Grell because Baum also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell and Baum.

Moreover, dependent claim 9 depends from independent claim 1 and recites additional limitations. As such, and for the exact same reason set forth above with regard to the independent claims being patentable over Freeburg, Grell and Baum, the Applicant submits that claim 9 is also patentable over Freeburg, Grell and Baum. As such, the Applicant respectfully requests the rejection be withdrawn.



F. Claims 14-16 and 23

The Examiner rejected claims 14-16 and 23 as being unpatentable under 35 U.S.C. § 103 over Freeburg and Grell and in further view of Budnik, et al. (U.S. Patent No. 6,052,064, issued on April 18, 2000, hereinafter referred to as “Budnik”). The Applicant notes that claims 14 and 23 were incorporated into the independent claims and canceled without prejudice. Accordingly, the Applicant addresses the rejection as they apply to the independent claims below and traverse the rejection.

The teachings of Freeburg and Grell are discussed above. Budnik teaches a method and apparatus in a wireless messaging system for dynamic creation of directed simulcast zones. (See Budnik, Abstract).

The Examiner’s attention is directed to the fact that Freeburg, Grell and Budnik, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant’s independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg and Grell simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations.

Moreover, Budnik does not bridge the substantial gap left by Freeburg and Grell because Budnik also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Rather, Budnik only teaches that a base station transmits a mobile station position calculated by the base station to another base station. (See Budnik, col. 5, ll. 3-19). Notably, a mobile station in Budnik is incapable of transmitting the mobile station position because it is the base station that calculates the mobile station position. (See *Id.*).

Moreover, the Applicant respectfully submits that Freeburg, Grell and Budnik

cannot be meaningfully combined. As noted above, the MPEP § 2141.02(VI) requires the Examiner to consider the prior art in its entirety. "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention". MPEP § 2141.02(VI), W.L. Gore & Associates, Inc., v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed Cir. 1983), cert. denied, 469 U.S. 851 (1984). It is impermissible to use the claims as a framework from which to choose among individual references to recreate the claimed invention. W. L. Gore Associates, Inc. v. Garlock, Inc., 220 U.S.P.Q. 303, 312 (1983). If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) MPEP 2143.01(V).

Freeburg and Grell cannot be meaningfully combined for the reasons discussed above. Furthermore, Budnik explicitly teaches that the base stations calculate the positions of the personal subscriber units (PSUs). (See Budnik, col. 5, ll. 2-19). Moreover, these positions are determined by the base stations to create simulcast zones and determine which PSUs to simulcast to. (See *Id.* col. 9, ll. 1-34). In stark contrast, Freeburg teaches that base stations simulcast data based upon instructions from a network control processor at a pre-selected time of transmission. (See Freeburg, Abstract). Therefore, attempting to modify Freeburg with the teachings of Grell and Budnik would render Freeburg inoperable for its intended purpose. Thus, for all of the above reasons, the Applicant respectfully contend that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell and Budnik.

Moreover, dependent claims 14-16 and 23 depend from independent claims 1 and 21 and recite additional limitations. As such, and for the exact same reason set forth above with regard to the independent claims being patentable over Freeburg, Grell and Budnik, the Applicant submits that claims 14-16 and 23 are also patentable over Freeburg, Grell and Budnik. As such, the Applicant respectfully requests the rejection be withdrawn.

G. Claim 17

The Examiner rejected claim 17 as being unpatentable under 35 U.S.C. § 103 over Freeburg, Grell and Budnik and in further view of Oren (U.S. Patent No. 6,725,045, issued on April 20, 2004, hereinafter referred to as "Oren"). The Applicant respectfully traverses the rejection.

The teachings of Freeburg, Grell and Siwiak are discussed above. Oren teaches a method and system for locating people and routing telephone calls to telephone stations selected by the called party. According to some embodiments of the present invention, the system may include wireless personal units and a location and routing unit adapted to locate the personal units and to route an incoming call intended for a telephone user associated with a particular personal unit to any one of the telephone stations selected by the telephone user (See Oren, Abstract).

The Examiner's attention is directed to the fact that Freeburg, Grell, Budnik and Oren, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg, Grell and Budnik simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations.

Moreover, Oren does not bridge the substantial gap left by Freeburg, Grell and Budnik because Oren also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell, Budnik and Oren. In addition, as discussed above, Freeburg, Grell and Budnik cannot be meaningfully combined.

Moreover, dependent claim 17 depends from independent claim 1 and recites additional limitations. As such, and for the exact same reason set forth above with regard to the independent claims being patentable over Freeburg, Grell, Budnik and Oren, the Applicant submits that claim 17 is also patentable over Freeburg, Grell, Budnik, and Oren. As such, the Applicant respectfully requests the rejection be withdrawn.

H. Claims 20 and 26

The Examiner rejected claims 20 and 26 as being unpatentable over Freeburg, Grell and Siwiak and further in view of the Oren. under 35 U.S.C. § 103

The teachings of Freeburg, Grell, Siwiak and Oren are discussed above.

The Examiner's attention is directed to the fact that Freeburg, Grell, Siwiak and Oren, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg, Grell and Siwiak simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations.

Moreover, Oren does not bridge the substantial gap left by Freeburg, Siwiak and Grell because Oren also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell, Siwiak and Oren. In addition, as discussed above, Freeburg and Grell cannot be meaningfully combined.

Moreover, dependent claims 20 and 26 depend from independent claims 18 and 24, respectively and recite additional limitations. As such, and for the exact same

reason set forth above with regard to the independent claims being patentable over Freeburg, Grell, Siwiak and Oren, the Applicant submits that claims 20 and 26 are also patentable over Freeburg, Grell, Siwiak and Oren. As such, the Applicant respectfully requests the rejection be withdrawn.

I. Claim 27

The Examiner rejected claim 27 as being unpatentable over Freeburg and Grell in view of Oren. under 35 U.S.C. § 103

The teachings of Freeburg, Grell and Oren are discussed above.

The Examiner's attention is directed to the fact that Freeburg, Grell and Oren, alone or in any permissible combination, fail to disclose the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations, as positively claimed by the Applicant's independent claims 1, 18, 21, 24 and 27. (See *supra*). As discussed above, Freeburg and Grell simply do not teach or suggest a method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. In addition, as discussed above, Freeburg and Grell cannot be meaningfully combined.

Moreover, Oren does not bridge the substantial gap left by Freeburg and Grell because Oren also fails to teach or suggest the novel method of simulcasting of signals to a mobile station from a plurality of base stations and transmitting the mobile station position from the mobile station to one or more of the plurality of base stations. Thus, for all of the above reasons, the Applicant respectfully contends that claims 1, 18, 21, 24 and 27 of the present invention are not made obvious by the combination of Freeburg, Grell and Oren. As such, the Applicant respectfully requests the rejection be withdrawn.

**CONCLUSION**

Thus, the Applicant submits that all of these claims now fully satisfy the requirements of 35 U.S.C. § 103. Consequently, the Applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 842-8110 x130 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

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